Amendments to the Claims

1. (re-presented - formerly dependent claim 3) A computer-implemented method of monitoring network performance where performance requirements are already established comprising the steps of:

monitoring a performance-defining metric on a recurring basis to obtain samples of the metric value;

determining a trend in actual service based on obtained samples of the metric using linear regression, said trend-determining step including the further steps of

   analyzing a set of samples obtained over a predetermined sampling interval to determine whether the analyzed set satisfies predetermined sample criteria, and

   terminating the step where the analyzed set fails to satisfy the predetermined sample criteria; and

determining a performance violation time equal to the time at which the actual service will cease to meet the established performance requirements if the determined trend continues.

2. (canceled)

3. (canceled)

4. (currently amended) A computer implemented method as set forth in claim 3 1 wherein the step of analyzing a set of samples comprises the step of determining whether the standard

09/347,273 (RSW920000024US1)   - 2 -

deviation of the set is greater than a predetermined percentage of the mean of the <u>set of samples</u> ~~sample~~.

5. (currently amended) A computer implemented method as set forth in claims ~~1 - 4~~ <u>1 or 4</u> including the additional step of generating an alert if the performance violation time is predicted to fall within a fixed time window beginning at the current time.

6. (original) A computer implemented method as set forth in claim 5 including the additional step of canceling a previously generated alert in the absence of a prediction that the performance violation time will fall within the fixed time window.

7. (re-presented - formerly dependent claim 10) For use in a system wherein at least one network performance metric is required to comply with predetermined requirements, a computer-implemented method for providing an alert, said method comprising the steps of:

monitoring the provided service to obtain, on a recurring basis, sets of samples representing actual network performance;

using the obtained sets of samples <u>and linear regression techniques</u> to generate a mathematical representation of a current trend in the network performance metric, <u>said using step including the additional steps of</u>

<u>calculating predefined statistical parameters of each obtained set of samples,</u>

<u>determining whether the calculated statistical parameters meet predefined threshold requirements, and</u>

terminating the step of generating a mathematical representation of a current trend in the network performance metric if where the calculated statistical parameters for an obtained set of samples fails to meet the predefined threshold requirements;

using the mathematical representation, predicting the time when the network performance metric will exceed a defined threshold if the current trend continues; and

generating an alert if the predicted time is within a fixed time window which begins upon execution of the method.

8. (canceled)

9. (canceled)

10. (canceled)

11. (currently amended) A computer-implemented method as set forth in claim 10 7 wherein the calculated statistical parameters comprise the standard deviation and mean of the set of samples and the predefined threshold requirement requires that the standard deviation be no greater than a predetermined percentage of the mean.

12. (currently amended) A system for providing an alert indicating a predicted violation of a predetermined network performance requirement, the system comprising:

a performance monitor which obtains sets of samples of a predefined service metric on a recurring basis;

a sample processor which receives the obtained sets of samples and generates a mathematical representation of a current trend in service metric values, said sample processor further containing logic for performing linear regression operations using the obtained sets of samples of the predefined service metric. said logic including

    statistical logic for determining the standard deviation and the mean of each obtained set of samples,

    arithmetic logic for determining the ratio of the standard deviation and the mean of each obtained set of samples. and

    thresholding logic for terminating any prediction where an obtained set of samples is determined to have a ratio exceeding a predefined threshold.;

logic elements which use the generated mathematical representation to predict when the service metric will cross a defined threshold if the trend represented by the mathematical model continues; and

an alert generator for generating an alert if the determined time is less than a predetermined time from the current time.

09/547,273 (RSW920000024US1)   - 5 -

13. (canceled)

14. (canceled)

15. (canceled)

14. (canceled)

15. (canceled)

16. (canceled)

17. (original) An article of manufacture comprising a computer useable medium having a computer readable program embodied in said medium, wherein the computer readable program when executed in the computer causes the computer to:

receive, on a recurring basis, sets of samples of a service metric obtained by monitoring the performance of a network;

calculate predefined statistical parameters of sets of obtained samples;

determine whether the calculated statistical parameters meet predefined threshold requirements;

ignore any set of samples for which the predefined threshold requirement is not met;

use retained sets of samples in generating a mathematical representation of a current trend in service metric values;

use the mathematical representation to predict when the service metric will exceed a defined threshold if the current trend continues; and

generate an alert if the elapsed time is less than a predefined time.